

Attorney Docket No. 051480-5024
Application No. 09/582,258
Page 5 of 9

IN THE CLAIMS:

1. (currently amended) Device for controlling an electromechanical regulator which has an actuator (12) and an actuating drive (11) with
- an electromagnet having a coil (113),
 - a movable armature and
 - a return mechanism mechanically coupled to the armature,
- in which:
- a controller (3a) is provided which controls the current through the coil (113) and which for that purpose produces control signals for a power regulator (5a, 5b), and
 - during the ~~operation~~ movement of the armature the control signals depend on the current and the time differential of the current through the coil (113) in the free-running operating state.
2. (currently amended) Device as in Claim 1, characterized in that the control signals, if the armature has moved for longer than a preset first time delay (TD1) up to the end of the armature movement, depend on the current and the time differential of the current through the coil (113) in the free-running operating state.
3. (previously amended) Device as in Claim 1, characterized in that, in the free-running operating state, the potential difference on the coil is given by the potential difference at the power regulator's electronic components operating in the conductive state and resistor R.
4. (currently amended) Device for controlling an electromechanical regulator which has an actuator (12) and an actuating drive (11) with
- an electromagnet having a coil (113),
 - a movable armature and
 - a return mechanism mechanically coupled to the armature,
- in which:
- a controller (3a) is provided which controls the current through the coil (113) and which for that purpose produces control signals for a power regulator (5a, 5b), as in Claim 1,

Attorney Docket No. 051480-5024
Application No. 09/582,258
Page 6 of 9

~~characterized in that~~ the control signals depend on the ratio of the time differential of the current and the current through the coil (113)), and

- during the movement of the armature the control signals depend on the current and the time differential of the current through the coil (113) in the free-running operating state.

5. (currently amended) Device as in Claim 4, characterized in that energy is supplied to the coil if the ratio falls below a preset first threshold value and that energy is drained from the coil if the ratio exceeds a preset second threshold value.

137 6. (currently amended) Device as in Claim 5, characterized in that energy is supplied to the coil for a preset second time delay (TD2) if the ratio falls below the preset first threshold value, and energy is drained from the coil for a preset third time delay (TD3) if the ratio exceeds the preset second threshold value.

7. (currently amended) Device as in Claim 5, characterized in that energy is supplied to the coil (113) until the current through the coil (113) has increased by another preset threshold value if the ratio falls below the preset first threshold value, and that energy is drained from the coil (113) until the current through the coil (113) has decreased by the other preset threshold value if the ratio exceeds the preset second threshold value.

8. (previously amended) Device as in Claim 1, characterized in that the controller (3a) is designed as a two-position controller.

9. (previously amended) Device as in Claim 1, characterized in that the controller (3b) is designed as a three-position controller.

10. (currently amended) Device as in Claim 1, characterized in that the actuating drive has another electromagnet with another coil (115) and has another return mechanism, and that another controller is provided which regulates the current through the ~~other~~ another coil (115).